

Appln. No.: 10/759,299
Amendment under 37 C.F.R. § 1.111

REMARKS

Claims 1-15 and 18-20 are pending in the application.

Claim 9 is objected to as allegedly containing “informalities.”

The Examiner states that the recitation “wherein R²⁵ is a hydrocarbon group having a carbon number of 1-20, and n is an integer of not less than 2” need not be in parentheses and requests that the parenthesis be removed.

Applicants have deleted the parentheses from claims 1 and 9. Accordingly, Applicants respectfully request that the Examiner withdraw the objection.

Claims 1-15 and 18-20 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the recitation on the second line on page 8, claim 1, “l is an integer of 0-3”, the Examiner asserts that the variable “l” does not appear in formulas (14), (15) and (16).

Further, the Examiner asserts that if the recitation “4-1” and “2-1” in the formulas is supposed to be “4-l” and “2-l,” with a definition of 0-3 for l, “2-1” in formula (16) would encompass negative numbers, which is nonsensical.

Applicants have amended formulas (14), (15) and (16) and have replaced the symbols “1” and “l” in the formulas and the language of the claim to recite “a” and “b” and further clarify that “a” is an integer of 0-3 and “b” is an integer of 0-1. In view of the amendment, it is clear that the recitation “2-b” in formula (16) does not encompass negative numbers.

The Examiner also asserts that part of formula (16) is missing in claim 1.

Applicants have amended claim 1 to recite a clearer version of formula (16).

The Examiner asserts that claim 9 recites formulas (19) and (20), but does not contain said formulas in the claim.

Applicants have amended claim 9 to include formulas (19) and (20). Applicants submit that these formulas were present in the original application, but inadvertently were omitted from the Preliminary Amendment. Therefore, the amendment to claim 9 does not add new matter.

In view of the above, Applicants respectfully submitted that the claims are clear and definite and it is requested that the rejection under 35 U.S.C. § 112, 2nd paragraph, be reconsidered and withdrawn.

Claims 1-15 and 18-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikematsu et al. (JP 05059103 or JP 05051406) ("Ikematsu") in combination with Tsujimoto et al. (JP 8073515) ("Tsujimoto").

In Tsujimoto the conjugated diene polymers are not reacted with a modifying agent, such as Applicants' components (i) and (j), and so the polymers are weak in reinforcing effect on carbon black and the improving width of the properties is insufficient. As described in Comparative Example 1, 2 and 4 (pages 51 and 57) of Applicants' specification, even if the molecular weight distribution of the polymer itself is small and the content of cis-1,4-bond is high, since the polymer is not modified, the properties of vulcanizate (tan δ , wear resistance) are poor as compared with those of Examples 16-18 (page 50) and 26-35 (pages 57 and 61). Tsujimoto does not disclose or suggest a method of producing a conjugated diene polymer in which a conjugated diene compound is polymerized with a catalyst consisting essentially of (a)

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to (d) in an organic solvent, and then reacting it with at least one compound selected from the group consisting of components (i) and (j).

Additionally, Applicants submit herewith a Declaration under 37 C.F.R. § 1.132, which has been executed by Mr. Sone, an inventor of the presently claimed invention, in order to show that the present invention would not have been obvious over Ikematsu and Tsujimoto.

As seen from the comparison of Run-1, Run-2, and Run-3 in the declaration, the present invention is unexpectedly superior with respect to cold flow and vulcanization properties as compared with Tsujimoto.

Applicants submit that the catalyst system of the present invention is entirely different from the catalyst system of Ikematsu (JP 05059103, JP 05051406) in the presence of aluminoxane. As seen from the comparison of Run-1 with Run-4 and Run-5 in the declaration, the cold flow and the vulcanization properties of the present invention are unexpectedly superior as compared with the catalyst system of Ikematsu and thus the present invention would not have been obvious over Ikematsu or over the combination of Ikematsu and Tsujimoto.

Additionally, the catalyst system defined in the present invention has a very high living property and is particularly suitable for the modification reaction with the modifying agent (i) and (j), as defined in the present invention, which is not taught nor suggested from Ikematsu and Tsujimoto. Therefore, Applicants submit that the presently claimed invention would not have been obvious over Ikematsu in combination with Tsujimoto. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

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In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

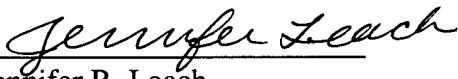
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